



**ENGINEERING OPERATIONS COMMITTEE  
MEETING MINUTES  
JULY 6, 2000 - 9:00 A.M.  
EXECUTIVE CONFERENCE ROOM**

---

Present:	C. T. Maki	G. D. Taylor	J. D. Culp
	C. Roberts	J. D. O'Doherty	T. E. Davies
	J. W. Reincke	S. Bower	
Guests:	M. Bott	C. Libiran	J. T. LaVoy
	T. Frake	C. Bleech	J. Ruszkowski
	T. Myers	M. Scheuer	

**OLD BUSINESS**

**1. Approval of the Minutes of the June 2, 2000, Meeting - C. T. Maki**

Minutes of the June 2, 2000, meeting were approved as written.

**2. 2003 Standard Specifications for Construction - J. Ruszkowski**

Six months into the process the committees are all 50 percent or more complete, with all committees reporting they will be finished by the December deadline. The work of converting to active voice has started on several sections.

Several issues affecting the revisions to the standard specifications were discussed. Judy will ask the committees to work together to propose language for review by the Division 1 Committee addressing the development of performance warranty specifications and pavement acceptance criteria.

Division 7 will be asked take a look at the bridge painting warranty program for possible inclusion in the book.

Divisions 5 and 6 will be asked to draft a section on pavement ride quality, which includes the description of work, measuring device requirements and a pay item only. The details of calculating ride quality index is being converted to a Michigan Test Method.

Bituminous QA/QC will be removed from the standard specifications as this program is in a transition phase, which will take time to evolve. Concrete QA/QC on the other hand has been stable for the past 5 + years and will be incorporated into the next book. The pay factor equations will likely remain as a special provision.

The department will adopt the industry standard term "hot mix asphalt" in place of "bituminous" in the next spec book.

## NEW BUSINESS

### 1. **Construction Zone Advisory Committee (CZAC) - J. D. Culp**

CZAC was created as an *advisory* committee to EOC. The function, focus, and responsibility of CZAC was reviewed and discussed. Reorganization options were discussed that would reduce the size of the committee and establish a decision making tie with EOC. The new committee will be chaired by the Traffic and Safety Division.

**ACTION:** Tom Myers and J. D. Culp will propose a new committee structure to EOC for further review.

### 2. **Pavement Selections - C. Bleech**

#### A. **I-96/M-14 Reconstruction: CS 82122, JN 38079**

The reconstruction alternates considered were Alternate 1, a flexible bituminous pavement, and Alternate 2, a jointed reinforced concrete pavement.

A life cycle cost analysis was performed. Alternate 2 was approved based on having the lowest Equivalent Uniform Annual Cost. The pavement design and cost analysis summary for Alternate 2 are as follows:

300 mm	..... JRCP (Mainline & Outside Shoulder) (8m jt spacing)
220 mm	..... JRCP (Inside Shoulder) (8m jt spacing)
100 mm	..... Open Graded Drainage Course
	Geotextile Separator
150 mm	..... Open Graded Underdrains
254 mm +/-	..... Existing Sand Subbase
654 mm	..... Total Thickness

Present Value Initial Construction Costs	..... \$632,005/kilometer
Present Value Initial User Costs	..... \$835,385/kilometer
Present Value Maintenance Costs	..... \$129,463/kilometer

Equivalent Uniform Annual Cost	..... \$86,100/kilometer
--------------------------------	--------------------------

**B. M-39 Reconstruction, CS 82192, JN 45702 (I-94 to M-153, Ford Road)**

The reconstruction alternates considered were Alternate 1, a flexible bituminous pavement, and Alternate 2, a jointed plain concrete pavement.

A life cycle cost analysis was performed. Alternate 2 was approved based on having the lowest Equivalent Uniform Annual Cost. The pavement design and cost analysis summary for Alternate 2 are as follows:

260 mm	.....	Jointed Plain Concrete Pavement (4.5m joint spacing)
400 mm	.....	Aggregate Base, Mod.
		Geotextile Separator
150 mm	.....	Underdrains
660 mm	.....	Total Thickness

Present Value Initial Construction Costs	.....	\$463,260/kilometer
--	-------	---------------------

Present Value Initial User Costs	.....	\$534,596/kilometer
----------------------------------	-------	---------------------

Present Value Maintenance Costs	.....	\$108,055/kilometer
---------------------------------	-------	---------------------

Equivalent Uniform Annual Cost	.....	\$59,629/kilometer
--------------------------------	-------	--------------------

**3. Proposed Research Project, *Effectiveness of Lane Merge Traffic Control System at Construction Work Zones* - J. W. Reincke**

In June, EOC approved participation in the newly created Transportation Research Center at Wayne State University. This proposed research is the first project being submitted for approval. The proposal has been reviewed by staff and several clarifications and additions were noted. Tom Maki wants the research to identify new ways or methods to effectively conduct lane merges in construction zones. This first phase will evaluate the system used this year and make recommendations for testing and evaluation of a new system or systems in 2001 and 2002.

**ACTION:** Jon Reincke and Jeff Grossklaus will meet with Dr. Tapan Datta to discuss modifications to the research proposal and to clarify the need to recommend new ideas and/or methods. Jon will talk with Jon Keldsen about possible funding sources.

**4. Barrier Advisory Committee - J. Reincke/C. Libiran**

The Barrier Advisory Committee (BAC) functions and responsibilities were reviewed. It was created in 1982 and has served its purpose well. However, in light of the proposed

committee changes noted under New Business Item 1, the BAC is to be included in the new committee to be chaired by the Traffic and Safety Division.

**ACTION:** The Barrier Advisory Committee is disbanded. The members are thanked for their service and will be used as resource people to the new traffic and safety group being formed. Carlos Libiran will join the new traffic and safety advisory group as the Design representative.

5. **Approval of Pavement Marking Material Selection Guideline - T. Myers/M. Scheuer**

The new guideline creates a simple performance based material selection criteria. A draft special provision, which supports the guideline, has been written. It allows any currently approved durable marking to be used at the contractor's discretion when durable markings are specified. The intent is for the most cost effective material to be selected. Twelve pay items will be replaced with four, and the need for individual special provisions for each durable material will be eliminated.

The regions have reviewed the guidelines; their comments were incorporated in the final draft.

**ACTION:** The draft guidelines are approved. Industry will be given an opportunity to review and if any substantial concerns are expressed the guidelines will be returned to EOC.

6. **Approval of Revisions to Guidance Document on Traffic and Safety Division Notes - J. O'Doherty/M. Bott**

The Traffic and Safety Division uses and maintains their Division Notes as the primary means of establishing practices and procedures. They are intended to supplement and provide the basis of application of the Michigan MUTCD, and various reference materials and specifications. These revisions update an existing internal document, which to date has not been available for use by others (consultants).

**ACTION:** The revisions to Guidance Document 10094 are approved. Tom Myers will contact the Attorney General's office about outside distribution of this document.

7. **Aluminum Signs in Work Zones - T. Maki**

Aluminum signs have been noted on construction work zones this season and even though they are not strictly prohibited by specification, there is concern about their use at the larger

sizes. Crash testing under NCHRP 350 has not been completed for wood or aluminum signs. Until it is, we will modify the special provision to allow its use up to a certain size.

**ACTION:** Aluminum signs will be allowed on existing construction jobs. A new special provision will be written to exclude on future contracts where appropriate. Tom Myers will revise the recent BOH Instructional Memorandum.

(Signed Copy on File at C&T/Secondary)

Jon W. Reincke, Secretary  
Engineering Operations Committee

JWR:kat

cc: EOC Members  
Region Engineers

J. R. DeSana	R. J. Risser, Jr. (MCPA)	L. Stornant	T. L. Nelson
R. J. Lippert, Jr.	A. C. Milo (MRBA)	J. Ruszkowski	R. D. Till
D. L. Smiley	J. Becsey (MAPA)	C. Libiran	M. Frierson
M. Nystrom (AUC)	D. Hollingsworth (MCA)	G. J. Bukoski	C. W. Whiteside
M. Newman (MAA)	J. Steele (FHWA)	K. Rothwell	T. E. Myers
J. Murner (MRPA)			